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EXAMINER

SANDERSON, JOSEPH W

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/523,609	Applicant(s) YOELI, RAPHAEL	
	Examiner Joseph W. Sanderson	Art Unit 3644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The status identifier for claim 11 should be --(Previously Presented)--.

Claim Objections

2. Claims 7 and 8 are objected to because of the following informalities:

Lines 2 and 3, respectively, “the payload” lacks positive antecedent basis.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 6, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hulbert (US 2 955 780) in view of Piasecki (US 3 184 183).

Regarding independent claim 6:

Hulbert discloses a VTOL vehicle comprising:

a fuselage (Fig 1, 10) having a longitudinal axis (fore to aft) and a transverse axis (side to side);

at least one lift-producing propeller (Fig 3, 23 and 23') carried by said fuselage on each side of said transverse axis;

a pilot's cockpit (Fig 1, 16 on the port side, with controls) formed in said fuselage between said lift-producing propellers laterally offset to one side of the longitudinal axis (as seen in Fig 1); and

at least one payload bay (Fig 1, 16 in center and starboard) formed in said fuselage between said lift-producing propellers and accessible from an opposite side of said longitudinal axis, but wherein said payload bay extends within said fuselage to said one side of said longitudinal axis (center 16 extends across longitudinal axis), rendering the pilot's compartment and the at least one payload bay asymmetrical with respect to the longitudinal axis.

Hulbert discloses an engine (Figs 3 and 5, 27) capable of driving the propellers, but does not disclose at least two engines.

Piasecki teaches a VTOL vehicle comprising "one or more engines" (col 2, lines 43-46), specifically two engines (Fig 2, 21 and 21a), each capable of driving said lift-producing propellers.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Hulbert to use at least two engines as taught by Piasecki as providing multiple engines is an art-recognized alternative means for driving rotors, and to further provide a back-up in the event one fails.

Regarding claim 12:

The discussion above regarding claim 6 is relied upon.

Hulbert as modified renders a plurality of vanes extending across an inlet side of each propeller substantially parallel to the longitudinal axis (there are two stator vanes 22 parallel with the longitudinal axis per fan, and the stators are located above the rotors as noted in Fig 5), and including on either side of the longitudinal axis (due to the width of the stators, portions are on both sides).

Regarding claim 13:

The discussion above regarding claim 6 is relied upon.

Hulbert as modified renders the at least one payload bay as a passenger compartment (a passenger may sit at least in the starboard compartment 16).

5. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hulbert (US 2 955 780) in view of Piasecki (US 3 184 183) as applied to claim 6 above, and further in view of Bucher (US 6 254 032).

Hulbert discloses a VTOL vehicle comprising at least one payload bay, but does not disclose a cover for supporting at least a portion of a payload when in the open position.

Bucher teaches a VTOL vehicle having a payload bay including a support (the stairway or ramp that defines 11; as depicted, 11 is a stairway, with each transverse line indicating a step), specifically a cover (it covers the entrance aperture), extendable between open and closed positions (to allow passengers on/off) and wherein in said open position, provides support for at

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least a portion of the payload, externally of the fuselage (passengers walk on it to enter/exit the vehicle).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have further modified Hulbert to use a staircase/cover as taught by Bucher for the well known predictable advantages of providing cover for the occupants when closed and facilitating entry and exit when open.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Piasecki (US 3 184 183) in view of Hulbert (US 2 955 780).

Regarding independent claim 6:

Piasecki discloses a VTOL vehicle comprising:

a fuselage (Fig 1, 11) having a longitudinal axis (fore to aft) and a transverse axis (side to side);

at least one lift-producing propeller (Fig 1, 15 and 16) carried by said fuselage on each side of said transverse axis;

a pilot's compartment (2, 12a with controls as variously shown within the figures) formed in said fuselage between said lift-producing propellers laterally offset to one side of the longitudinal axis (as seen in Fig 2); and

at least one payload bay (Fig 2, other 12a) formed in said fuselage between said lift-producing propellers and accessible from an opposite side of said longitudinal axis; and

at least two engines (Fig 2, 21 and 21a), each capable of driving said lift-producing propellers.

Piasecki does not disclose the at least one payload bay extending within said fuselage to said one side of said longitudinal axis, although appears to disclose a similar second payload bay in Figs 2 and 8 to the center bay disclosed in Hulbert.

Hulbert discloses at least one payload bay (center and starboard 16) extending from one side and across the longitudinal axis.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Piasecki to use the extended payload bays as taught by Hulbert for the well known and predictable result of increasing the amount of storage space the vehicle has to transport payloads.

7. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Piasecki (US 3 184 183) in view of Hulbert (US 2 955 780) as applied to claim 6 above, and further in view of Illingworth (US 6 520 449).

The discussion above regarding claim 6 is relied upon.

Piasecki as modified renders a VTOL vehicle comprising a skirt made of rigid panels (as seen in various forms in Figs 9-11), but does not disclose a flexible skirt.

Illingworth teaches as prior art a VTOL vehicle comprising a flexible skirt (as seen in Figs 3 and 4) to more successfully seal the static pressure region and improve the efficiency of the system (col 15, lines 8-10).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have further modified Piasecki to use a flexible skirt as taught by Illingworth for the well known advantage of improving the efficiency of the system at least when close to the ground, i.e. during take-offs and landings.

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hulbert ('780) in view of Piasecki ('183), or vice versa.

Hulbert or Piasecki as modified by the other render ducted fan vehicles having passenger compartments, but do not disclose the compartments including at least one outward facing seat.

It would have been an obvious matter of design choice to use outward-facing seats, since applicant has not disclosed that this configuration solves any stated problem or is for any particular purpose (as evidenced by Figs 14b-e) and it appears that the invention would perform equally as well with the seats of the noted art.

Further, it is well documented that side facing seats are alternatives to forward or rear facing seats. For example, helicopter gunners during the Vietnam War faced outward to adequately fire from the vehicle, and some subway systems, such as the New York subway, use side facing seats to provide more room to carry more passengers.

9. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hulbert ('780) in view of Piasecki ('183), or vice versa as applied to claim 6 above, and further in view of the De

Lorean DMC-12, first produced in 1981 (images available from Wikipedia, http://en.wikipedia.org/wiki/De_Lorean_DMC-12).

Hulbert or Piasecki as modified by the other render vehicles having payload bays, but do not render covers for the payload bays hinged on the same side as the fuselage.

The De Lorean DMC-12 teaches covers for payload bays (seating areas) hinging on the far side from the opening of the payload bay (as seen in the provided image).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have further modified Hulbert or Piasecki to hinge covers on the far side of the payload bays from the openings as taught by the De Lorean DMC-12 for the well known advantage of lessening the amount of side clearance needed for entry and exit (since the doors do not swing outward to the side, but upward).

Since the at least one payload bays of Hulbert and Piasecki extend beyond the longitudinal axis, hinging the covers at the far side would create a hinge on the pilot's side of the craft.

Response to Arguments

10. Applicant's arguments filed 20 March 2008 have been fully considered but they are not persuasive.

In response to applicant's argument that Hulbert (or Piasecki as modified by Hulbert) does not render a pilot's cockpit and at least one payload bay that are asymmetrical with respect to the longitudinal axis (starting page 7), the two payload bays of Hulbert or the modified

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Piasecki extend from one side of the vehicle across the centerline to the pilot's cockpit. This creates an asymmetrical arrangement, i.e. one side extends farther than the other.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph W. Sanderson whose telephone number is (571)272-0474. The examiner can normally be reached on M-F 7:00 am - 2:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael R. Mansen can be reached on (571)272-6608. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael R Mansen/
Supervisory Patent Examiner, Art Unit
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